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EXAMINER

AVELLINO, JOSEPH E

ART. UNIT PAPER NUMBER

2143

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12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/384,932

Applicant(s)

TONDERING, CLAUS

Examiner

Joseph E. Avellino

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1-24 are pending in this examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 10, 17, 18, 22, and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. These claims recite the limitation "maintaining a database indicating total resource usage in the network system" which is not discussed or disclosed in the specification. Applicant is requested to direct the Office as to where in the specification the aforementioned limitation is discussed.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 10, 14, 17, 18, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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6. The claims 1, 10, 17, 18, 22, and 24 recite the limitation, "maintaining a database indicating total resource usage in the network system". It is undeterminable from the scope of the claim if "total resource usage" indicates the usage on *all* the resources currently on the network or the amount of usage on *one* resource by all the processes currently using the resource. Correction is required.

7. Claim 14 recites the limitation "...to at least correspond to the specified usage level." It is unable to be determined from the scope of the claim as to what this means (i.e. how close is does the maximum usage level have to be to be considered that it corresponds to the specified usage level). Correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 5, 8-10, 17-18, and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Lowe (USPN 6,125,396).

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9. Referring to claim 1, Lowe discloses a method of managing usage of a resource (i.e. access rates to a shared file server) in a network system, the network system comprising:

maintaining a database indicating total resource usage in the network system (it is inherent that the system taught by Lowe maintains some form of memory that stores the amount of resource usage in the system by the statement "based on current usage of shared resource 428 by other clients..." col. 7, lines 15-16);

indicating an available amount of credit (usage reserve) for usage of a resource based on said total resource usage (e.g. abstract; Figure 3, reference character 324; col. 5);

decreasing said total resource usage according to a function of time (since Lowe discloses that the process repeats in intervals, such as per second, it inherently decreases the total resource usage based on a function of time) (col. 5, line 55-62; col. 7, line 39 to col. 8, line 45)

regulating usage of the resource by a process based on the indicated available credit and allowing increased usage of the resource by the process based on said decreasing (the example taught by Lowe discloses that at the one second interval the desired usage rate is 10 blocks/second, the second time interval is 7 blocks/second, third time interval is 7 blocks/second, fourth time interval is 12 blocks/second) (Figure 4; col. 5, line 55-62; col. 7, line 39 to col. 8, line 45).

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10. Referring to claim 4, Lowe discloses the network operates in a real-time networking environment (col. 6, lines 49-67). Although the embodiment primarily discussed in Lowe refers to a non-real-time client, the network is a real-time environment. Furthermore Lowe discloses that real-time clients usually have a reserve set at zero, however "the configuration data on which the reserve for the real-time clients is based on could be changed" which indicates that a reserve can be set at a non-zero number, indicating the system can work for a real-time client (col. 6, lines 53-63).

11. Referring to claim 5, Lowe discloses the method is modeled as a leaky bucket (Figure 2; col. 3, line 55 to col. 4, line 53).

12. Referring to claim 7, Lowe discloses regulating usage of the resource comprises modifying the available credit by adjusting a maximum resource usage value (reserve value) (col. 5, line 55-65).

13. Referring to claim 8, Lowe discloses notifying the process (client) of the availability of the credit if the indicated available credit is less than a requested usage amount (e.g. client requests a rate at 20 blocks/second, resource coordinator 420 notifies the client that a rate of 10 blocks/second has been allotted to the client) (col. 7, lines 12-23).

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14. Referring to claim 9, Lowe discloses notifying the process (client) comprises sending a message to a network address (it is inherent that a client on a network as a network address and that any message sent to the client is sent to the address of the client) of the process (client) when the requested usage amount is greater than the available credit (col. 7, lines 12-23).

15. Referring to claim 18, Lowe discloses a network including a plurality of devices, comprising:

a plurality of resources running in the network ("...governing access to computer resources") (col. 5, lines 1-9);

computer software, residing on a computer readable medium at each device (Lowe discloses that the client governs its own access to shared resource 428, col. 7, lines 20-23, therefore the client must have software residing on computer readable medium at each device) accessing the plurality of resources to cause the device to perform the following operations:

maintaining a database indicating total resource usage in the network system (it is inherent that the system taught by Lowe maintains some form of memory that stores the amount of resource usage in the system by the client) (Figure 4);

indicating available credit (reserve) for usage of a resource based on said total resource usage(col. 7, lines 12-20);

decreasing said total resource usage according to a function of time (Figure 3; reference character 340; col. 8, line 42-45); and

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regulating usage of the resource by a process based on the indicated available credit and allowing increased usage of the resource by the process of said decreasing(col. 7, line 39 to col. 9, line 8).

16. Referring to claim 22, Lowe discloses the available amount of credit comprises a difference between a maximum resource usage and the amount of resource currently used by the process (col. 8, lines 40-45).

17. Referring to claim 23, Lowe discloses the available amount of credit increases per unit of time by an estimated value of the resource that becomes available per unit of time (col. 8, lines 17-23).

18. Claims 17, 21, and 24 are rejected for similar reasons as stated above. Furthermore Lowe discloses the system comprises computer software, residing on a computer-readable medium at a device connected to a network (col. 3, lines 10-25).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 2, 3, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Overby, Jr. et al. (USPN 6,016,503) (hereinafter Overby).

20. Referring to claim 2, Lowe discloses a method of managing usage of a resource in a network system, however Lowe does not disclose that the resource comprises one of memory space or system processor time. Lowe does, though, disclose that "an embodiment of the invention applies to any resource with a limited capacity that is shared concurrently by users of the resource" (col. 9, lines 13-15). In analogous art, Overby discloses another method of managing usage of a resource in a network system wherein the shared resource is memory space (control the allocation of memory) (col. 5, lines 13-15). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Lowe with Overby to provide a more efficient method of memory utilization, thereby reducing processing overhead and wasting unused memory on processes which do not require their total allotted memory space.

21. Referring to claim 3, Lowe discloses a method of managing usage of a resource in a network system. Lowe does not disclose that the network comprises an embedded computer system. In analogous art, Overby discloses another method of managing usage of a resource wherein the network comprises an embedded computer system (col. 1, lines 13-20). It would be obvious to a person of ordinary skill in the art at the

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time the invention was made to combine the teaching of Lowe with Overby to provide a more efficient method of memory utilization, thereby reducing processing overhead and wasting unused memory on processes which do not require their total allotted memory space.

22. Claims 19, and 20 are rejected for similar reasons as stated above.

Claim 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Garner et al. (USPN 6,112,085) (hereinafter Garner).

23. Referring to claim 6, Lowe discloses a method for managing usage of a resource as stated in the claims above. Lowe does not disclose the method further comprising determining the priority of the resource and allocating the resource in response to an increased priority of the resource. Garner discloses:

determining a priority of the resource (col. 58, lines 57-63); and

allocating the resource based on the priority of the resource (col. 58, line 64-67).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Garner with Lowe to allow preferred resources to be allocated to increase overall speed and efficiency of the network.

24. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Harrington et al. (USPN 6,289,012) (hereinafter Harrington).

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25. Referring to claim 11, Lowe discloses the method of managing a plurality of resources as stated in the claims above. Lowe further discloses associating with each software tool a maximum usage level (col. 7, lines 13-23). Lowe does not disclose allocating a descriptor representative of any of the software tools to any of the plurality of devices, although this can be inferred since a request from the client process to the resource coordinator 420 to request access to the shared resource 428 (col. 7, lines 13-15). Harrington discloses allocating a descriptor (i.e. hash ID) representative of any of the software tools to any of the plurality of devices (col. 15, lines 46-50). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Lowe with Harrington for more efficient data downloads and data resiliency as supported in Harrington (col. 3, lines 18-34).

26. Referring to claim 12, Lowe discloses:

decrementing the maximum usage level of the software tool in response to the use of the resource associated with the tool by any of the plurality of devices (col. 7, line 40 to col. 9, line 9);

calculating an available credit based on the usage of the resource associated with the tool as a function of the maximum usage level (col. 7, line 40 to col. 9, line 9);
and

indicating to a device waiting to use the resource associated with the tool of the available credit (col. 7, line 40 to col. 9, line 9).

27. Referring to claim 14, Lowe further discloses incrementing the maximum usage level (assigned rate) to at least correspond to the specified usage level (i.e. usage level available on the resource) (e.g. abstract).

28. Referring to claim 15, Lowe in view of Harrington discloses disclose the method of managing a plurality of resources as stated in the claims above. Although Lowe discloses allowing a resource to exceed its assigned rate, Lowe does not specifically state overriding the usage level to allow a device access to one of the plurality of resources. Harrington discloses when a pre-allocated memory element is not available, the list will override the reallocated space and the list "grows to add additional memory elements to the List" (col. 15, lines 25-30). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Low with Harrington for more efficient data downloads and data resiliency as supported in Harrington (col. 3, lines 18-34).

29. Referring to claim 16, Lowe in view of Harrington disclose the method of managing a plurality of resources as stated in the claims above. Harrington further discloses destroying the software tool in response to a request from one of the devices (col. 16, lines 52-56 and Figure 26). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Harrington with

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Lowe to allow for efficient memory management and to facilitate garbage collection in the system.

Response to Amendment

30. Applicants other arguments dated February 3, 2003 have been considered but are not persuasive.

31. In the remarks, Applicant argued in substance that (1) Overby does not disclose maintaining a database indicating total resource usage in the network system.

32. As to point (1), as necessitated by amendment, new art is used to support the limitations deficient in the Overby reference.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

34. Bennett (USPN 5,828,878) discloses a method and a scheduler for controlling when a server provides service with rate control to an entity.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (703) 305-7855. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703) 308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JEA
June 5, 2003


DAVID WILEY
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